

REMARKS

Applicants respectfully request entrance of the above claim amendments. Applicant respectfully submit that the above claim amendments to not present new matter. Upon entrance of the above amendments, claims 1-13 are pending in the application.

The Office Action, mailed February 25, 2003 ("Office Action"), states that claims 1-5 and 7-8 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Karp et al., *HinCyc: A Knowledge Base of the Complete Genome and Metabolic Pathways of H. influenzae*, ISMB-96, pp. 116-124 ("Karp et al."). Applicants respectfully submit that the present invention, as recited in the claims as amended, distinguishes over the disclosure and teachings of Karp et al. For example, Karp et al., at most, disclose a method of attempting to predict gene function by looking at similar gene functions in a static database and then infer a protein interaction. Further, Karp et al. only disclose and teach pathways associated with *E. coli* and *H. influenzae*. In contrast, the claims of the present invention recite a method comprising a "dynamic database". Whereas Karp et al. merely attempt to utilize gene functions, the claims of the present invention recite a method comprising utilizing "cellular components, reactions and concepts" to generate signal cascades.

For at least the foregoing reasons, claim 1—and claims 2-5 and 7-8, which depend therefrom—is distinguished from the teachings and disclosure of Karp et al. Accordingly, Applicants respectfully submit that the rejections of claims 1-5 and 7-8 under 35 U.S.C. § 102(b) in view of Karp et al. are improper and respectfully request that these rejections be removed.

The Office Action states that claims 1-2 and 6-13 are rejected under 35 U.S.C. §§ 102(a) and (e) as allegedly being anticipated by U.S. Patent No. 5,930,154, issued to Thalhammer-Reyero ("Thalhammer-Reyero"). Applicants respectfully submit that the present invention, as recited in the claims as amended, is distinguished over the teaching and disclosure of Thalhammer-Reyero. For example, the methods and systems disclosed and taught by Thalhammer-Reyero comprise static

inferences and simulations. (*See, for example*, col. 19, lines 9-12, stating, “the methods used for inference and simulation are available only through the developers’ interface, and are part of the hidden infrastructure not available for manipulation by the end-users of this system.”) In contrast, the claims of the present invention recite a “dynamic database”. As such, the present invention does not limit the end-user in the manner taught by Thalhammer-Reyero. As a dynamic database, the “cellular components, reactions and concepts” can be completely configured by the end-user of the system. Through end-user manipulations of the dynamic database, the inference engine becomes capable of being changed by the end-user. Thus, the present invention provides for a system that is entirely flexible to the end-user. In contrast, systems and methods disclosed and taught by Thalhammer-Reyero are almost wholly static or inflexible to an end-user.

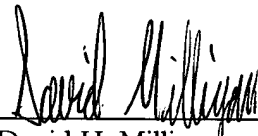
For at least the foregoing reasons, Applicants respectfully submit that claim 1—and claims 2 and 6-13, which depend therefrom—is distinguished from the teachings and disclosure of Thalhammer-Reyero. Accordingly, Applicants respectfully submit that the rejections of claims 1-2 and 6-13 under 35 U.S.C. §§ 102(a) and (e) are improper and respectfully request that these rejections be removed.

In view of the above amendments and remarks, Applicants respectfully submit that the claims, as amended, even more clearly distinguish over the cited references and are in a condition for allowance. Applicants respectfully request that a Notice of Allowability be issued in the application on an expedited basis. The Assistant Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required now or hereafter, or credit any overpayment, to Deposit Account No. 50-0206.

Respectfully submitted,
HUNTON & WILLIAMS

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By: _____


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